




Xinhang Liu

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 Google Scholar

Education

The Hong Kong University of Science and Technology Sep. 2022 - Now
Ph.D. in Computer Science and Engineering, Advisors: Chi-Keung Tang and Yu-Wing Tai
ShanghaiTech University Sep. 2018 - Jun. 2022
B.Eng. in Computer Science and Technology, Advisors: Jingyi Yu and Lan Xu
Carnegie Mellon University Jun. 2021 - Aug. 2021
Robotics Institute Summer Scholar, Hosts: Sebastian Scherer and Huai Yu

Professional Experience

ByteDance Seed Feb. 2025 - Aug. 2025
Research Intern, Hosts: Bingyi Kang
Mitsubishi Electric Research Laboratories Jun. 2023 - Sep. 2023
Research Intern, Hosts: Moitreya Chatterjee, Pedro Miraldo, and Suhas Lohit

Selected Publications

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- **Xinhang Liu**, Yuxi Xiao, Donny Y. Chen, Jiashi Feng, Yu-Wing Tai, Chi-Keung Tang, Bingyi Kang, “Trace Anything: Representing Any Video in 4D via Trajectory Fields.” (**Preprint**)
 - Longfei Li, Zhiwen Fan, Wenyan Cong, **Xinhang Liu**, Yuyang Yin, Matt Foutter, Panwang Pan, Chenyu You, Yue Wang, Zhangyang Wang, Yao Zhao, Marco Pavone, Yunchao Wei, “Martian World Models: Controllable Video Synthesis with Physically Accurate 3D Reconstructions.” (**NeurIPS 2025**)
 - Jiakai Zhang, Shouchen Zhou, Haizhao Dai, **Xinhang Liu**, Peihao Wang, Zhiwen Fan, Yuan Pei, Jingyi Yu, “CryoFastAR: Fast Cryo-EM Ab Initio Reconstruction Made Easy.” (**ICCV 2025**)
 - Qi Wu, Yubo Zhao, Yifan Wang, **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang. “Motion-Agent: A Conversational Framework for Human Motion Generation with LLMs.” (**ICLR 2025**)
 - **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang. “ChatCam: Empowering Camera Control through Conversational AI.” (**NeurIPS 2024**)
 - **Xinhang Liu**, Jiaben Chen, Shiu-hong Kao, Yu-Wing Tai, Chi-Keung Tang. “Deceptive-NeRF/3DGS: Diffusion-Generated Pseudo-Observations for High-Quality Sparse-View Reconstruction.” (**ECCV 2024**)
 - **Xinhang Liu**, Yan Zeng, Yifan Qin, Hao Li, Jiakai Zhang, Lan Xu, Jingyi Yu. “CryoFormer: Continuous Heterogeneous Cryo-EM Reconstruction using Transformer-based Neural Representations.” (**ECCV’24 NFBCC Workshop Highlight**)
 - **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang, Pedro Miraldo, Suhas Lohit, Moitreya Chatterjee. “Gear-NeRF: Free-Viewpoint Rendering and Tracking with Motion-aware Spatio-Temporal Sampling.” (**CVPR 2024 Highlight, 2.8% of 11532**)
 - **Xinhang Liu**, Jiaben Chen, Huai Yu, Yu-Wing Tai, Chi-Keung Tang. “Unsupervised Multi-View Object Segmentation Using Radiance Field Propagation.” (**NeurIPS 2022**)
 - Liao Wang, Jiakai Zhang, **Xinhang Liu**, Fuqiang Zhao, Yanshun Zhang, Yingliang Zhang, Minye Wu, Lan Xu, Jingyi Yu. “Fourier PlenOctrees for Dynamic Radiance Field Rendering in Real-time.” (**CVPR 2022**)
 - Jiakai Zhang, **Xinhang Liu**, Xinyi Ye, Fuqiang Zhao, Yanshun Zhang, Minye Wu, Yingliang Zhang, Lan Xu, Jingyi Yu. “Editable Free-Viewpoint Video using a Layered Neural Representation.” (**SIGGRAPH 2021**)

Teaching & Service

Reviewer: CVPR, ICCV, ECCV, NeurIPS, ICLR, and ICML.

Teaching assistant: COMP4411 Computer Graphics (Fall, 2024), COMP2611 Computer Organization (Spring, 2024), COMP5421 Computer Vision (Spring, 2023)